

REMARKS

Claims 10, 14-15, 45-51 and 54 are pending in this application. Claims 10, 45 and 51 have been amended and claims 55-58 have been added by the present Amendment. Amended claims 10, 45 and 51 and new claims 55-58 do not introduce any new subject matter.

ALLOWABLE SUBJECT MATTER

Applicants gratefully acknowledge the Examiner's indication that claims 45-50 are allowed.

AMENDMENTS TO CORRECT TYPOGRAPHICAL ERRORS

Claim 10 has been amended to correct an inadvertent typographical error therein, wherein "inter-reaction layer" has been changed to "inter-layer reaction layer".

Claim 45 has been amended to change "first contact hole" to "contact hole" and to delete the phrase "via the first contact hole", which is redundant. Further, claim 45 has been amended to change "transparent conductive pattern" to "transparent conductive layer pattern" to preserve proper antecedent basis.

Applicants submit that the amendments to claim 45 do not affect the allowability of claim 45.

REJECTION UNDER 35 U.S.C. § 102

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the . . . claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9

U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989); M.P.E.P. § 2131.

Reconsideration is respectfully requested of the rejection of claims 10, 15, 51, and 54 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,323,521 ("Seo").

First Metal Layer 121 Is Not Directly Connected To Gate Electrode 113

Claim 10, recites, *inter alia*, a conductive layer directly connected to the wire via the inter-layer reaction layer. Similarly, claim 51 recites, *inter alia*, the first conductive layer is directly connected to the first wire via the second conductive layer (inter-layer reaction layer).

In the rejections of claim 10 and 51, the Examiner maintains that the pixel electrode 133 is electrically connected to the gate electrode 113 via first metal layer 121.

In contrast to the embodiments recited in claims 10 and 51, pixel electrode 133 disclosed in Seo is not directly connected to the gate electrode 113 via the first metal layer 121. The first metal layer 121, which the Examiner analogizes to the claimed inter-layer reaction layer, forms part of the drain electrode 127. As is evident from the structure of the TFT shown in Seo, the drain electrode 127 is purposely separated from the gate electrode 113 by the insulation layer 115. Thus, there is no direct connection, and instead, there is insulation between drain electrode 127 and gate electrode 113. See Seo, Fig. 5D.

Accordingly, Seo does not anticipate a conductive layer directly connected to the wire via the inter-layer reaction layer (or second conductive layer), as recited in independent claims 10 and 51.

Seo Teaches Away From A Conductive Layer Electrically Connected To A Wire Via An Inter-Layer Reaction Layer Including At Least Silicon, Al_xSi_x or Inter-Metallic Compound Comprising Al

The Examiner relies on newly cited Seo as teaching the claimed inter-layer reaction layer or second conductive layer including Al_xSi_x . However, Applicants respectfully submit that Seo teaches away from the claimed inter-layer reaction layer or second conductive layer including at least silicon, Al_xSi_x , or inter-metallic compound comprising Al.

Claim 10, recites, *inter alia*, a conductive layer directly connected to the wire via the inter-layer reaction layer including at least silicon, Al_xSi_x , or inter-metallic compound comprising Al. Similarly, claim 51 recites, *inter alia*, the first conductive layer is directly connected to the first wire via the second conductive layer (inter-layer reaction layer), and the second conductive layer contains silicon, Al_xSi_x , or inter-metallic compound comprising Al.

Referring to Applicants' disclosure, conductive layers, for example, redundant gate pad 86, pixel electrode 82 and redundant data pad 88, are formed on and directly contacting respective inter-layer reaction layers 94, 96 and 98 so as to be directly connected to gate pad 24, drain electrode 66 and data pad 68 via the layers 94, 96 and 98, respectively. See, e.g., Applicants' disclosure, page 13, lines 4-11, and Fig. 2.

In contrast, Seo states that the pixel electrode 133 is connected to the second metal layer 123 formed of Mo or an Mo alloy, and is not connected to the first metal layer 121 formed of Al or AlSi. The connection to the second metal layer 123, and not the first metal layer 121, is made to reduce the contact resistance of the pixel electrode and the drain electrode. See Seo, col. 5, lines 13-19.

Therefore, Seo teaches away from a connection between the conductive layer (pixel electrode) and the layer having Al or AlSi. As such, Seo fails to disclose or suggest a conductive layer directly connected to a wire via the inter-layer reaction layer (or second conductive layer) including silicon, Al_xSi_x or inter-metallic comprising Al, as recited in claims 10 and 51.

Therefore, Applicants respectfully submit that Seo does not teach or suggest the limitations of claims 10 and 51, and does not anticipate same. For at least the reason that claim 15 depends from claim 10, and claim 54 depends from claim 51, claims 15 and 54 are also submitted not to be anticipated by the cited reference.

As such, Applicants respectfully request that the Examiner withdraw the rejections of claims 10, 15, 51, and 54 under 35 U.S.C. § 102(e).

REJECTION UNDER 35 U.S.C. § 103

Reconsideration is respectfully requested of the rejection of claim 14 under 35 U.S.C. § 103(a) as being unpatentable over Seo in view of U.S. Patent No. 6,278,502 ("Colgan").

As stated above, the first metal layer 121 in Seo is not directly connected to the gate electrode 113. In addition, Seo teaches away from the claimed connection between the conductive layer and the inter-layer reaction layer having silicon, Al_xSi_x or inter-metallic compound comprising Al.

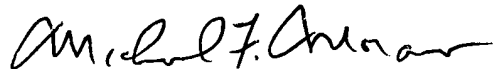
Colgan fails to cure these deficiencies in Seo. Like Seo, the data metal 126 is not directly connected to the gate metal 110 in Colgan. See Colgan, Fig. 17. Further, Colgan does not appear to disclose an inter-layer reaction layer including silicon, Al_xSi_x or inter-metallic compound comprising Al as claimed.

As such, claim 10 is submitted to be patentable over Seo in view of Colgan. For at least the reason that claim 14 depends from claim 10, claim 14 is also submitted to be patentably distinct over the cited references.

Therefore, Applicants respectfully request that the Examiner withdraw the rejection of claim 14 under 35 U.S.C. § 103(a).

An early and favorable reconsideration is earnestly solicited. If the Examiner has any further questions or comments, the Examiner may telephone Applicants' Attorney to reach a prompt disposition of this application.

Respectfully submitted,



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